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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,536	12/19/2005	Yukihiro Oishi	052363-0029	9363

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EXAMINER	
VELASQUEZ, VANESSA T	
ART UNIT	PAPER NUMBER
1733	

MAIL DATE	DELIVERY MODE
05/04/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,536	OISHI ET AL.	
	Examiner	Art Unit	
	Vanessa Velasquez	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20,22 and 23* is/are pending in the application.

4a) Of the above claim(s) *6-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :1/19/2010; 2/19/2010; 11/17/2010.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 4/18/2011 has been entered.

Status of Claims

Claims 1-20, 22, and 23 are pending. Claim 1 is amended. Claim 21 remains canceled. Claims 6-20 are withdrawn from consideration. Of the pending claims, claims 1-5, 22, and 23 are presented for examination on the merits, and claim 1 is independent.

Information Disclosure Statement

2. Three (3) information disclosure statements (IDS) were submitted on 1/19/2010, 2/19/2010, and 11/17/2010. The submissions are in compliance with the provisions of

37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Rejections - 35 USC § 112, Second Paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims do not properly limit the base claim on which they depend.

In claim 2, the quantity of Al is 0.1% to 12%, which is broader than 5.5-7.2% and 8.1-9.7% in claim 1.

In claim 3, the quantity of Mn is 0.1-2.0%, which is broader than the range of 0.13% or more as recited in claim 1. The quantity of Zn is 0.1-5.0%, which is broader than the ranges of 0.4-1.5% and 0.35-1.0% as recited in claim 1. The quantity of Si is 0.1-5.0%, which is broader than the ranges of 0.1% or less and 0.5% or less as recited in claim 1.

In claim 4, the quantity of Zn is 0.1-10%, which is broader than the ranges of 0.4-1.5% and 0.35-1.0% as recited in claim 1.

Claim Rejections - 35 USC § 112, Fourth Paragraph

5. The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

> Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

6. Claims 2-4 are rejected under 35 U.S.C. 112, fourth paragraph, for failing to further limit the claim on which they depend, as explained in paragraph four, supra. (See *Federal Register*, Vol. 76, No. 27, pp. 7162-7175, published Feb. 9, 2011.)

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-3, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. (WO 02/099148) in view of *Webster's New World Dictionary* (Third College Edition, p. 1206). (Note: Prior art document WO 02/099148 is published in the Japanese language. Since US 2004/0163744 A1 is a publication of the national stage application of PCT/JP02/04759 (published as WO 02/099148), it will be used as the English language translation of WO 02/099148. Accordingly, unless otherwise stated, all paragraph citations referencing the Oishi et al. document refer to the US 2004/0163744 reference.)

Regarding claims 1-3, Oishi et al. teach a drawn wire made from magnesium-based alloy, which may be shaped into various articles, including screws (abstract; paragraphs [0045], [0056], [0186]). The magnesium-based alloy may contain the following elements, in percent by mass (paragraph [0022]):

Element	Claim 1 first alloy listed	US 2004/0163744 A1 WO 02/099148
Al	5.5 - 7.2	5.5 - 7.2
Zn	0.4 - 1.5	0.4 - 1.5
Ni	0.05 or less	0.05 or less
Si	0.1 or less	0.1 or less
Mg	base	base

Element	Claim 1 second alloy listed	US 2004/0163744 A1 WO 02/099148
Al	8.1 - 9.7	8.1 - 9.7
Zn	0.35 - 1.0	0.35 - 1.0
Mn	0.13 or more	0.13 or more
Cu	0.1 or less	0.1 or less
Ni	0.03 or less	0.03 or less
Si	0.5 or less	0.5 or less
Mg	base	base

The tensile strength of the magnesium-based alloy wire is 250 MPa or more (paragraph [0027]), which lies within the claimed range. The average crystal grain size of the alloy wire is 10 μm or less (paragraph [0035]). A *prima facie* case of obviousness exists where the ranges in the prior art overlap those recited in the claims (MPEP § 2144.05).

Oishi et al. do not disclose the maximum grain size as claimed. However, Oishi et al. do disclose that it is known to control the grain size by adjusting the working temperature during the drawing process (paragraph [0036]). Furthermore, Oishi et al. disclose that it is desirable to form a wire with as low a grain size as 5 μm or less in order to enhance the fatigue properties of the wire (paragraph [0037]). Therefore, it would have been obvious to one ordinary skill in the art to have ensured the minimization of the maximum grain size of the magnesium-based wire for the purpose of securing good fatigue characteristics of the wire. In addition, achieving such a grain size would appear to involve only routine skill in the art.

Oishi et al. do not explicitly teach that the screw has a head portion and a thread portion. However, a screw, by definition, comprises head portion and thread portion. *Webster's New World Dictionary* defines a screw as containing a threaded section and commonly having a slotted head (p. 1206). Several illustrations of screws are also provided (p. 1206). Thus, one of ordinary skill in the art would have understood that the screw to which Oishi et al. refers comprises or is expected to comprise a head and threaded portion, as these are parts commonly associated with screws by persons of ordinary skill.

Regarding claims 22 and 23, the claims are product-by-process claims because they seek to define a product by the way it has been manufactured. It should be noted that the patentability of product-by-process claims is determined by the characteristics of the product itself and the implied structure imparted by the recited process limitations. Patentability does not rest on the method of manufacture. When the prior art discloses a product appearing to be identical or substantially identical to the claimed product, the burden falls on Applicant to show an unobvious difference. See MPEP § 2113.

9. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of *Webster's New World Dictionary*, as applied to claim 1 above, and further in view of Iba et al. (US 5,336,466).

Regarding claims 4 and 5, Oishi et al. teach a magnesium-based alloy material containing Zn in an amount of 0.4-1.5% or 0.35-1.0% (paragraph [0022]), which lies within the claimed range, but they do not teach the addition of Zr and rare earth metals

to the alloy as claimed. Iba et al., drawn to magnesium-based alloys that overlap a substantial portion of the alloys of Oishi et al., teach that the addition of 0.1-3.0 wt.% rare earths and 0.1-2.0 wt.% Zr improves the strength and creep properties of such magnesium alloys (col. 7, lines 9-30; col. 8, lines 40-51). It is noted that Oishi et al. desire a high tensile strength alloy (paragraph [0027]). Therefore, it would have been obvious to one of ordinary skill in the art to have added rare earth metals and Zr, as taught by Iba et al., to the magnesium alloys of Oishi et al. in order to enhance their strength.

Response to Arguments

10. Applicant's arguments with respect to claims 1-5, 22, and 23 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Velasquez whose telephone number is 571-270-3587. The examiner can normally be reached Monday-Friday 9:00 AM-6:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached at 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vanessa Velasquez/
Examiner, Art Unit 1733
/Scott Kastler/
Primary Examiner, Art Unit 1733